

Proposed changes to Power Supply Monitor Displays

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DCS Meeting



Proposed Changes to PS Displays

- Add additional layer of safety for Master Switches
 - Will do on my next trip to FNAL.
- Change lower threshold for PS Temperature ALARM based on Data Logger plots.
 - Current Limits: Lower limit = 20C; Upper limit = 45C
- Displaying the number of ALARMS from the Lower Branches.
 - No separate ACNET device for Warnings.
- Current ALARMS Limits:
 - Channel 3.5V : MC = (0, 45)A, base = 34A
SV = (3.4, 3.9)V, base 3.5V,
MV = (3.4, 5.8)V, base = 3.5V
TP = (20, 45)C, base 30C
 - Limits in the .csv file and shown in the display differ.
outputSupervisionMaxCurrent = 100A.
 - **Question:** What happens when one of the variables drops beyond the lower limit ?
Question: What are the hardware upper limits that would shut off the channel ?

Nova Near Detector Power Supply Summary

30-12-2013 14:24:18

Diblock

		M		3	2	1		
				LV Power Supplies		3.5 V		
Position	1	On	3.5	On	3.5	56	-68.66	-68.66
	2	On	3.5	On	3.5	56	-68.66	-68.66
	3	On	3.5	Off	0.0	56	-68.66	-68.66
	4	On	3.5	Off	0.0	56	-68.66	-68.66

				3	2	1		
				LV Power Supplies		24 V		
Position	1	On	24.1	On	24.1	56	-68.66	-68.66
	2	On	24.1	On	24.1	56	-68.66	-68.66
	3	On	24.1	Off	0.0	56	-68.66	-68.66
	4	On	24.1	Off	0.0	56	-68.66	-68.66

				3	2	1		
				HV Power Supplies		425 V		
Position	1	56	-68.66	-68.66	-68.66	-68.66	-68.66	-68.66
	2	56	-68.66	-68.66	-68.66	-68.66	-68.66	-68.66
	3	56	-68.66	-68.66	-68.66	-68.66	-68.66	-68.66
	4	56	-68.66	-68.66	-68.66	-68.66	-68.66	-68.66

Diblock

Front End Uptime: 1226954 secs

Plot Overview

LV Details

HV Details

LV Crate Master Switch

On

Off

Near Detector
LV Channel Master Switch

On

Off

Near Detector
HV Channel Master Switch

On

Off

HV Crate Master Switch

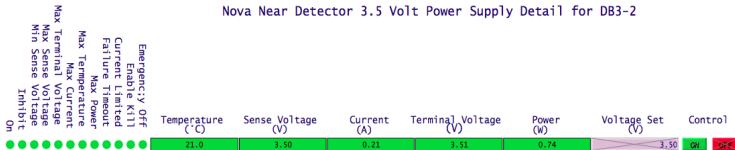
On

Off

Single Channel View

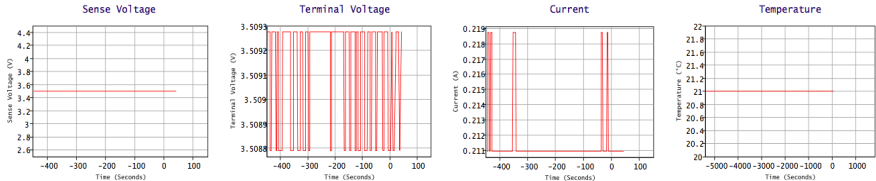
Nova Near Detector 3.5 Volt Power Supply Detail for DB3-2

30-Dec-2013 14:26:00



Configuration Parameters

outputVoltageRiseRate	1.0	outputSupervisionMaxSenseVoltage	3.9	outputConfigMaxSenseVoltage	16.0
outputVoltageFallRate	100.0	outputSupervisionMaxTerminalVoltage	5.8	outputConfigMaxTerminalVoltage	16.0
outputSupervisionBehaviour	21845.0	outputSupervisionMaxCurrent	100.0	outputConfigMaxCurrent	256.0
outputSupervisionMinSenseVoltage	3.1	outputSupervisionMaxTemperature	45.0	outputSupervisionMaxPower	600.0



Logger = NOVA

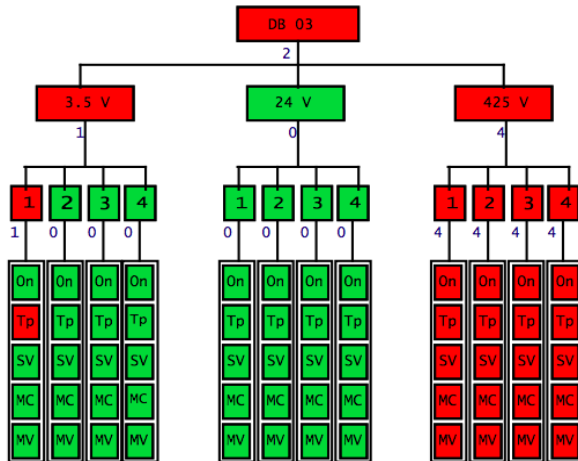
● Fix Y-axis scale.

- Reasonable for LV (3.5V and 24V)
- Not Reasonable for 425V ? The 0 mark MUST be visible. If scaled from -1 to 500V, small fluctuations will NOT be visible.

PS Diblock Alarm Tree

Nova Near Diblock Power Supply Alarm Tree

02-Jan-2014 15:30:09



LV Details

HV Details

ND PS Summary

Alarm Control

Summary of Proposed Changes for PS Displays

- Add additional safety layer for Master switches to PS displays.
- Fix Y-axis scale for 3.5V and 24V in single channel view. (425V ?)
- Change lower threshold for PS Temperature ALARM based on Data Logger plots.
- Displaying the number of ALARMS from the Lower Branches in the ALARM Summary Display.
- Ask for a limited access to the ACNET system to be able to change ALARM thresholds.